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stars, a large barren tract spread over many square degrees from south to north in the Milky Way.

In regarding this nebula we are led to speculation. We might suppose the nebula were detached from the great western nebulous cloud, and as if it, or the cosmic process connected with its origin, had swept the long channel through the star-crowds of the Milky Way. Or is there a dark mass following the path of the nebula, absorbing the light of the fainter stars? We are far from knowing enough to settle these questions; but one thing we learn anew from this interesting nebula, and in a very illustrative manner—*that the nebula is geometrically encircled by a ring which is void of faint stars, and that this lacuna is the end of a long starless hole.*

*Königstuhl Astrophysical Observatory:*
1904 *August.*

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## *Dr. Brooks's Discovery of his Twenty-fourth Comet.*

### By William R. Brooks, D.Sc.

I have the honour to announce to the Society the discovery of a new comet on the evening of April 16 last, in the constellation *Hercules*. Its position at the moment of discovery, $9^h\ 50^m$ standard mean time, was R.A. $16^h\ 58^m\ 10^s$; declination north 44° 10′.

Its cometary character was detected the instant the object was swept into the telescopic field, for it had all the appearance of a great comet in miniature, a head with stellar nucleus and a tail. I enclose herewith a drawing of the telescopic field at discovery (fig. 1). When first seen the comet was nearly midway between the stars D and E, and also nearly on a line drawn from the star A to B. The rate of motion was quite slow, but in about an hour it had moved into a line drawn from A to C.

The following evening was clear, and an observation at $8^h\ 15^m$ made the comet's position R.A. $16^h\ 55^m\ 5^s$, Decl. $+44°\ 48'$, giving a daily motion of about three-quarters of a degree in a north-westerly direction.

It was a conspicuous object in the 10-inch refractor with which it was discovered, the nucleus being at times quite prominent and sparkling, while the tail in good air could be readily seen to the edge of a half-degree field. The comet was always visible in the 3-inch finder. It must really be quite a large comet, for at discovery its distance from the Earth was not far from three hundred millions of miles, and it had passed perihelion several weeks before. With two exceptions its perihelion distance is greater than any other known comet, the mean of several computations by different computers being 2·707. At first an elliptical orbit was computed, with the remarkably short period

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of about three years. The orbit is probably, however, a parabola, the latest elements received at this writing, as issued from the

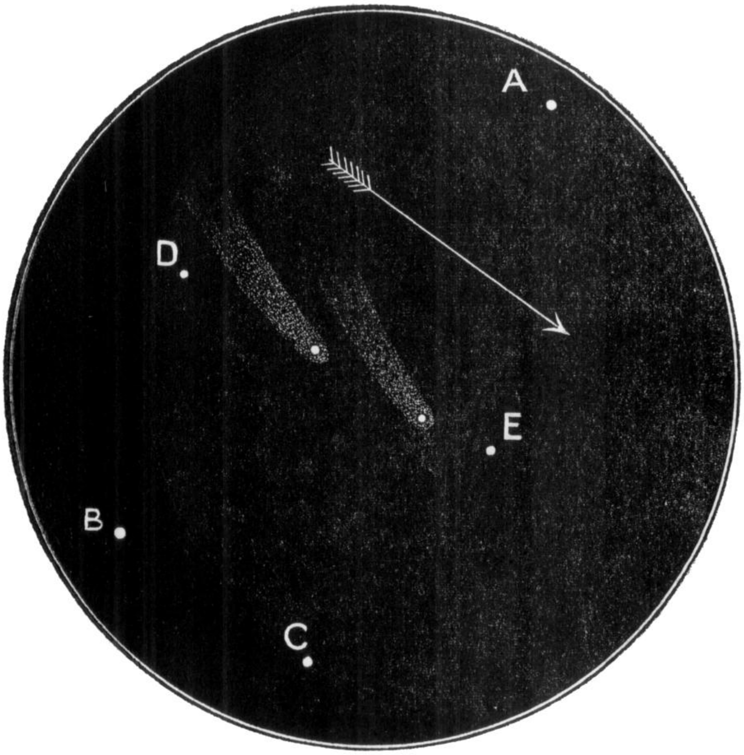

Fig. 1.—Telescopic Discovery Field of Brooks's Comet, *a* 1904.

Lick Observatory by Messrs. Atkin and Maddrill, from observations on April 17, May 8, and May 24, being as follows:

$$T = 1904 \text{ March } 6{\cdot}9049 \text{ G.M.T.}$$

$$\left.\begin{array}{rl} \omega = & 53^\circ\ 27'\ 13''{\cdot}8 \\ \text{☊} = & 275\ \ 46\ \ 05{\cdot}5 \\ i = & 125\ \ 07\ \ 33{\cdot}1 \end{array}\right\} \text{M. Eq. 1904.}$$

$$\log. q = 0{\cdot}432475.$$

The comet's position being most favourable for observation, and being visible the entire night, a large number of observations have been secured, the latest being last night, July 11, $11^{h}\ 5^{m}$ standard M.T., when its approximate place was R.A. $12^{h}\ 27^{m}\ 30^{s}$, Decl. $+51^\circ\ 14'$. The most northerly position observed here was on June 10, when it equalled $+56^\circ\ 57'$.

Although theoretically the comet should have grown fainter subsequent to its discovery the decline was so slow as to be imperceptible for some weeks; indeed there were times when it appeared considerably brighter than it was at discovery. I am inclined to attribute this appearance to actual fluctuations in brightness (as noted in other instances) as well as to changes in

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the clearness of the sky—a very variable quality indeed, even when the sky is quite free from clouds, in this very delightful lake region of America. I select a few of many observations :

April 22. $9^h$ $50^m$.
Position R.A. $16^h$ $40^m$ $45^s$, Decl. +47° 50′.

Easily seen in presence of half-moon.

May 2. $8^h$ $30^m$.
R.A. $16^h$ $3^m$ $50^s$, Decl. +52° 59′.

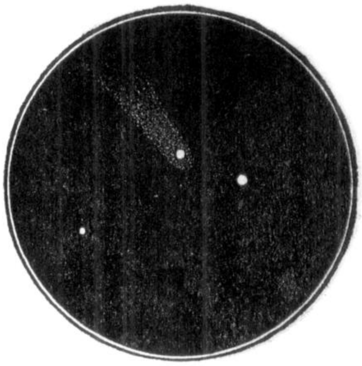

FIG. 2.

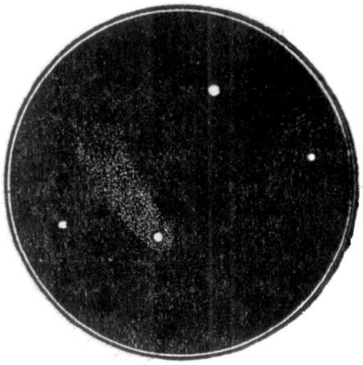

FIG. 3.

Tail not quite so conspicuous but the nucleus bright and sparkling. Comet was also well seen after moonrise, three nights after full.

May 11. $9^h$ $0^m$.
R.A. $15^h$ $29^m$ $10^s$, Decl. +56° 9′.

Very clear, and comet looked brighter. More of the tail seen and the nucleus very sparkling.

June 10. $9^h$ $35^m$.
R.A. $13^h$ $21^m$ $0^s$, Decl. +56° 57′.

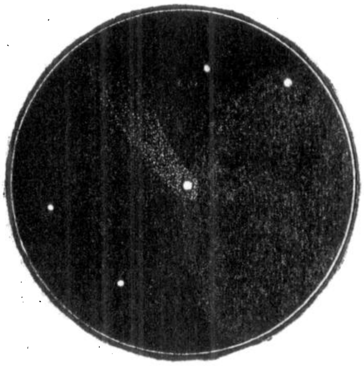

FIG. 4.

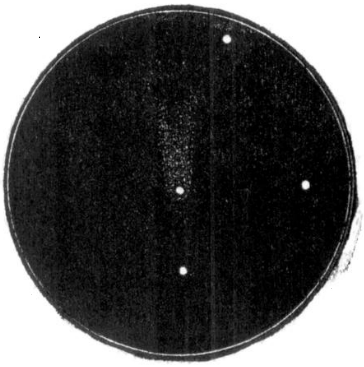

FIG. 5.

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First observation after long period of clouds and rain. Comet fainter, but easily seen in the 3-inch finder. Tail traced nearly to edge of half-degree field, and the nucleus almost as bright as at any previous observation.

I trust that my fellow-workers in England and on the Continent have been interested in following this celestial visitant in its favourable pathway across the sky.

May I be allowed to put on record here that this is the twenty-fourth cometary discovery I have been permitted to make? Eleven of these were found with reflectors at the old Red House Observatory, Phelps, N.Y., two with the same instrument soon after my removal here, the 9-inch reflector being set up in the garden pending the installation of the observatory equipment. The remaining eleven comets have been discovered with the 10-inch refractor of this observatory. Comet-seeking is, however, only carried on in the few intervals between other duties, among which is the entertainment of visitors, the Observatory being freely open to the public on every clear night. This explains why most of my Geneva comets have been discovered in the morning sky.

*Smith Observatory, Geneva, N.Y., U.S.A.:*
1904 *July* 12.

## *Errata.*

### *Mean Daily Area of Sun-spots for Each Degree of Solar Latitude for each Year from* 1874 *to* 1902 *as Measured on Photographs at the Royal Observatory, Greenwich.*

(*Communicated by the Astronomer Royal.*)

The following corrections should be made in the paper bearing the above title, and appearing in the *Monthly Notices*, vol. lxiii. No. 8:

| Page. | Year. | Latitude. | *For* | *Read* |
|---|---|---|---|---|
| | | ° | | |
| 457 | 1896 | +20 | 2·2 | 21·5 |
| 460 | 1892 | −25 | 10·8 | 17·8 |
| " | " | −35 | 0·01 | ... |
| " | " | −40 | ... | 0·01 |

### *Erratum in Mr. Maunder's Paper on the Distribution of Spots in Heliographic Latitude.*

Vol. lxiv. p. 758, line 32, *for* $\frac{1}{250}$ *read* $\frac{1}{25}$.